

12140535 Data Mining																
Department: Computer Systems Engineering																
Program Name: Computer Systems Engineering																
Course Number: 12140308	Credits: 3	Year/Semester: 2018-2019 FALL														
<input checked="" type="checkbox"/> Required Course <input type="checkbox"/> Elective Course (click on and check the appropriate box)																
Prerequisite(s): NA																
Catalog Description: This course is an introductory course on data mining. It introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining, with a focus on two major data mining functions: (1) pattern discovery and (2) cluster analysis. The course provides you the opportunity to learn concepts, principles, and skills to practice and engage in scalable pattern discovery methods on massive data; discuss pattern evaluation measures; study methods for mining diverse kinds of frequent patterns, sequential patterns, and sub-graph patterns; and study constraint-based pattern mining, pattern-based classification, and explore their applications																
Course Web Page: http://app.ptuk.edu.ps/PTUK-stuff/PTUK_PersonalPage/CourseDetails_master.php?CourseID=12140535&Name=a.melhem&Name=a.melhem																
Textbook(s): . Jiawei Han: Data Mining: Concepts and Techniques, 3rd edition.																
Topics Covered and Class Schedule: (4 hours of lectures per week) <table border="0"> <tr> <td>Week 1</td> <td>Introduction (Ch 1)</td> </tr> <tr> <td>Week 2-3</td> <td>Data Objects and Attribute Types, Basic Statistical Descriptions of Data , Measuring Data Similarity and Dissimilarity (Ch 2), Data Visualization (Ch 2)</td> </tr> <tr> <td>Week 4-5</td> <td>Data Preprocessing, Data Cleaning, Data Integration, Data Reduction, Data Transformation and Discretization (Ch 3)</td> </tr> <tr> <td>Week 6-7</td> <td>Data warehouse and Data Cube (Ch4 and Ch5)</td> </tr> <tr> <td>Week 8-9</td> <td>Mining Frequent Patterns, Associations, and Correlations (Ch 6)</td> </tr> <tr> <td>Week 10-12</td> <td>Classification: Basic Concepts (Ch 7)</td> </tr> <tr> <td>Week 13-15</td> <td>Cluster Analysis. (SIL:ch10)</td> </tr> </table>			Week 1	Introduction (Ch 1)	Week 2-3	Data Objects and Attribute Types, Basic Statistical Descriptions of Data , Measuring Data Similarity and Dissimilarity (Ch 2), Data Visualization (Ch 2)	Week 4-5	Data Preprocessing, Data Cleaning, Data Integration, Data Reduction, Data Transformation and Discretization (Ch 3)	Week 6-7	Data warehouse and Data Cube (Ch4 and Ch5)	Week 8-9	Mining Frequent Patterns, Associations, and Correlations (Ch 6)	Week 10-12	Classification: Basic Concepts (Ch 7)	Week 13-15	Cluster Analysis. (SIL:ch10)
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Assessment: First Exam :20%, Second Exam 20%, Assignments & Quizzes 20% , Final 40%